REMARKS/ARGUMENTS

All thirty of the claims originally filed in this application are currently pending. No new claims have been added by this response. Consequently, it is believed that no additional PTO fees have been generated. If it is determined, however, that additional fees are due in this application, the Commissioner is hereby authorized to charge Deposit Account No. 18-1722 in the amount of such fees.

Claim 13 has been amended to correct a typographic error in the claim as originally filed. The word "least," which had been inadvertently omitted in the original filing, has been added via the current amendment. This amendment is not being made for reasons of patentability, to overcome any prior art or to alter the substantive content of claim 13. None of the other claims have been amended.

Claims 1 and 26 have been rejected under 35 U.S.C. 103(a) as being unpatentable over a combination consisting of the Yang and Hogenauer references. For the reasons expressed in the following paragraphs, Applicant respectfully disagrees with this rejection. It is believed that claim 1, claim 26 and all claims dependent thereon are allowable.

As noted in the Office Action, Yang does not teach the use of more than one decimation function in a single CIC filter. Although two decimation functions are shown in Yang (see Fig. 2), only one such function is used per CIC filter. For example, the second CIC filter of Yang (see the three blocks on the right-hand portion of Fig. 2 of Yang) contains a single decimation function (R2). The first Yang filter ends with a multi-input sum of R1 parallel filter paths, each path containing a single decimation by R1 at its input. In addition, the architecture for the synthesized CIC first filter of Yang's Figure

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2 contains no cascaded comb functionality. There is no equivalence between the transfer function of Yang's Figure 2 filter and Hogenauer's cascaded CIC filter pair with equivalent N1, N2, R1 and R2.

Further, the cited combination of references does not teach a distributed decimation within a single CIC filter. Such a structure, however, is claimed in pending claims 1 and 26. A CIC filter in decimation configuration contains, for example, a number of stages of integration followed by a sample rate decimation, and lastly followed by a number of stages of differentiation (comb stages). Neither Yang nor Hogenauer teach distributing the decimation function with the comb stages in a CIC filter. Yang's two-filter structure does not require or teach that either single filter contains multiple (distributed) decimation functions.

Claims 13, 16, 20 and 22 are rejected as being unpatentable over a combination of the Yang and Gao references. Applicant respectfully disagrees with this rejection. It is believed that claims 13, 16, 20, 22 and all claims dependent thereon are allowable.
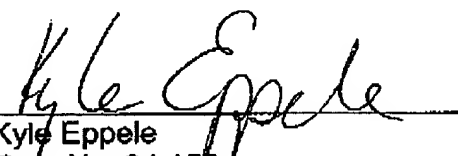
Applicant believes that the rejection presented in the Office Action does not establish a prima facie case in support of the obviousness rejection. For example, a rejection must be based upon a "prior" reference or references. A reference must have a date that is ahead of the filing date of the patent application against which it is applied. The present Office Action, however, does not establish that the cited Gao reference is ahead of Applicant's disclosure. Page 2 of the Office Action and the Form PTO-892 Notice of References Cited lists the date of the Gao reference as "1999." No month or day-related information is provided. Since the present application was filed in September of 1999, the listed date of "1999" is not sufficient to establish that the Gao reference is prior to the pending claims. In fact, according to information viewed on the

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IEEE web site, the Gao reference, ISBN 0-7803-5632-2, may not have been published until October of 1999. Consequently, Applicant requests clarification of the publication date of the Gao reference. Further, if the Examiner finds that the publication date is after the filing date of the present application, it is requested that the rejection be withdrawn and that the claims be allowed.

Applicant believes that the above remarks fully address the issues and rejections raised in the Office Action. It is further believed that the above remarks establish that the pending claims are allowable over the stated rejections. Consequently, issuance of a Notice of Allowance is respectfully requested.

Respectfully Submitted,

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